Energy News

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Energy News Overview

The world passed a long-feared milestone during the second week of May. Scientists reported that a daily average atmospheric carbon dioxide concentration, at the Mauna Loa observatory on Hawaii, surpassed 400 parts per million (ppm) for the first time in (modern) human existence. The best available evidence suggests the amount of the gas in the air has not been this high for at least three million years, and scientists believe the rise portends large changes in the climate and the level of the sea. The pre-industrial carbon dioxide concentration, determined through Antarctic ice core sampling, was about 280 ppm during warm periods such as the one associated with the development of modern societies over the past 8000 years or so. Despite the large and relatively rapid increase in atmospheric carbon dioxide concentration, many countries, including the United States and China, have refused to adopt binding national emission targets. Unless concerted action is taken soon the next carbon dioxide concentration milestone of 450 ppm will be reached in less than 20 years. See related article on page 2.

In more upbeat news Tesla Motors reported that it had repaid a $465 million loan to the U.S. government made in 2010. The company, using money it raised last week in the capital markets, is repaying the government nine years before its loan was due. This report was good news for the Obama administration which has taken criticism for some high profile loans gone bad that were made to new tech companies such as Solyndra and Fisker. The Energy Department on Wednesday said that losses on its loans were equivalent to 2 percent of its $34 billion portfolio. Tesla's model S is in high demand and the company expects to sell 21,000 of the $65,000 to $100,000 cars in 2013. More good news for Tesla was that Consumer Reports has named the model S its top-scoring car for the 2013 model year. The company has indicated that it plans to introduce a smaller more affordable car and a midsized crossover vehicle in the near future with the intent to expand market share. See related article on page 5.

Energy Price Overview (charts on pages 3 &4)

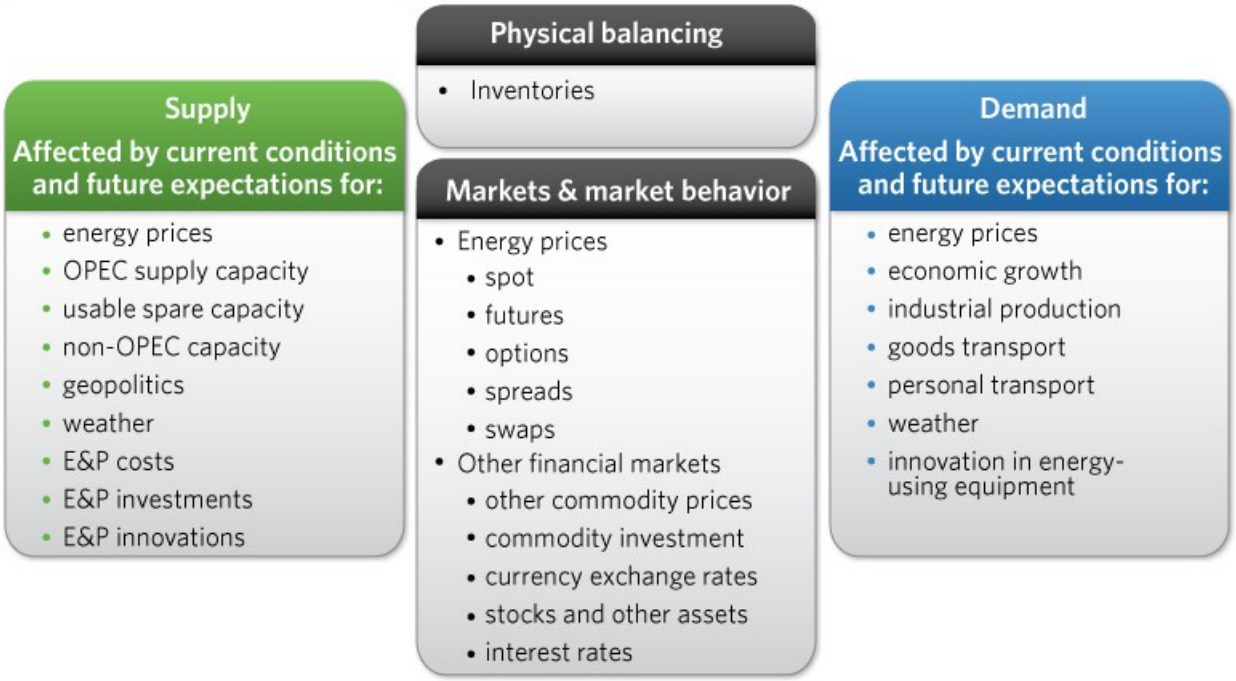
After dropping towards the end of April the price for WTI crude oil recovered some ground ending about $6 higher for the last week of May at around $95/barrel. Refined petroleum product prices increased during May with national gasoline averaging $3.65/gal, up 11 cents for the month (CA $4.02), and diesel at $3.88, down 1 cents/gal (CA $4.04). In Washington the average gasoline price surged 29 cents from a month ago to $3.97/gal. while diesel was up a more modest 9 cents to $4.09/gal. Parts of the Midwest also experienced large and rapid price increases during May. It is not uncommon to see such rapid price increases during late April through early June. Refiners are required to switch to more expensive summer blend during this time frame, which is also the time gasoline demand is increasing. During the spring refiners are also wrapping up maintenance work, and a delay in restarting production can also put upward pressure on price.

NYMEX natural gas price (June delivery) after rising during the previous two months, held roughly steady at $4.18/MMBtu. Locally the spot price for gas at Kingsgate was down a bit: now at $3.90/MMBtu. After several years of reductions in coal use in the US, higher gas prices are resulting in a rebound in the coal share of electric power generation: see http://www.eia.gov/todayinenergy/detail.cfm?id=11391

A reported gas storage injection of 88 Bcf last week is typical for this time of year. The national natural gas storage figure is at 2053 Bcf and is now 3.9% below the 5-year storage average. Gas storage in the Western states is 14% above the 5 year average.

Regional electricity spot price moved a bit higher over the past month. The spring snowpack melt has begun and hydropower generation is abundant. The (four-week) Mid C trading hub (on-peak) price ranged from $24-42 per MWh, and the average electricity monthly spot market price was $33.5 per MWh, $3 higher than in the previous report. The Northwest river runoff forecast at the Dalles has improved a bit and is now at 94% of normal. In mid February, the river runoff forecast reached a low of 85% of normal.

Many factors influence the formation of oil prices and other energy prices



Source: www.eia.gov/finance/markets/

Energy Headlines -If you only have time to read a few articles—read these.

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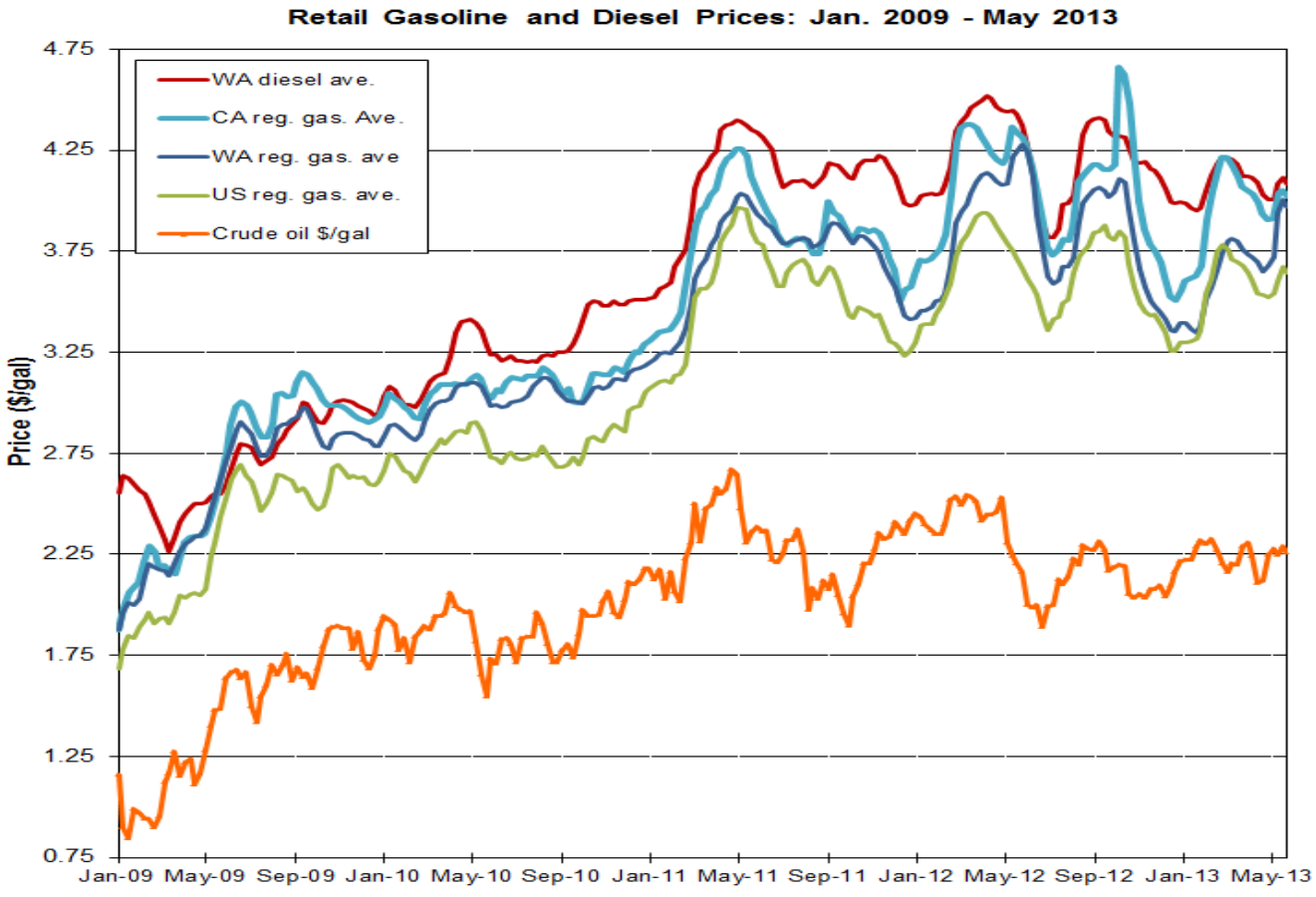
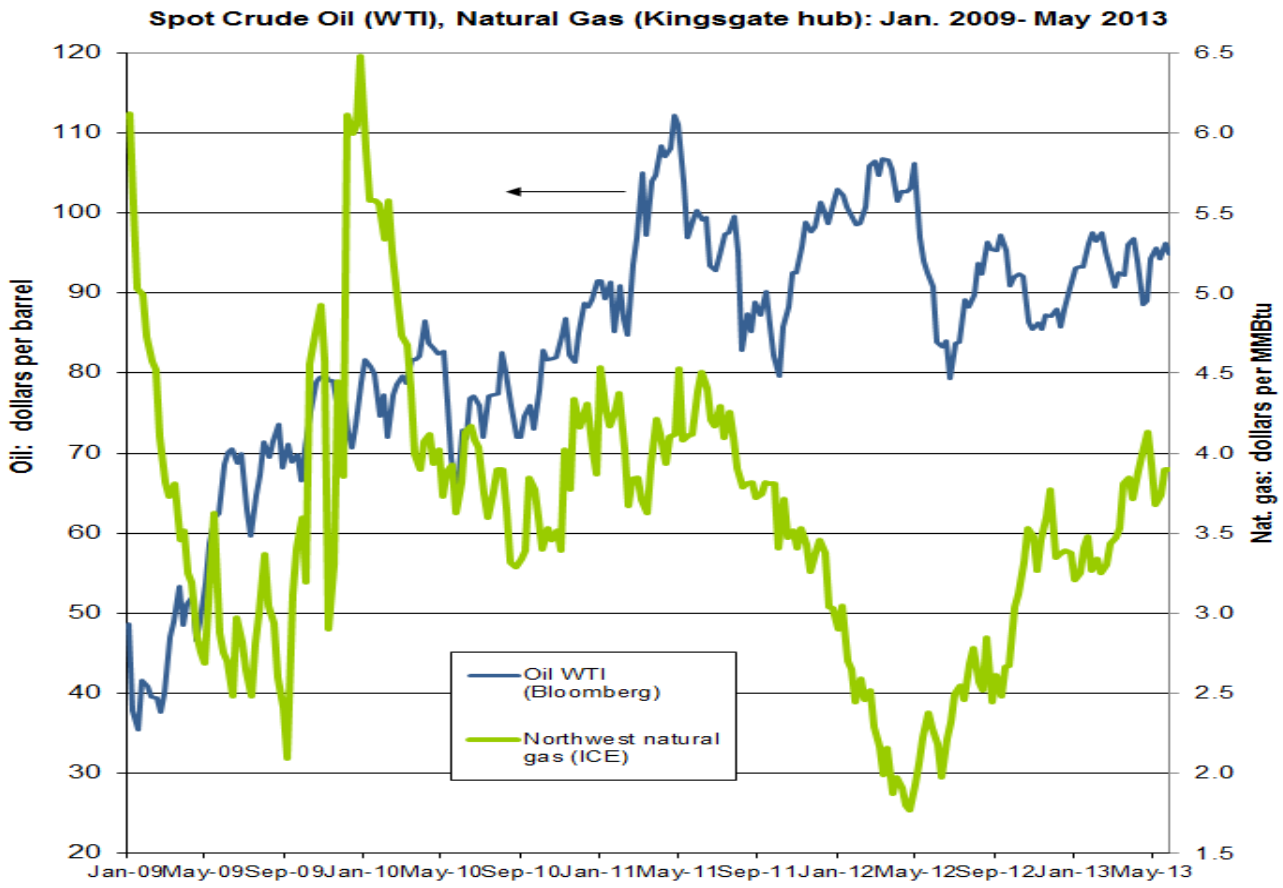
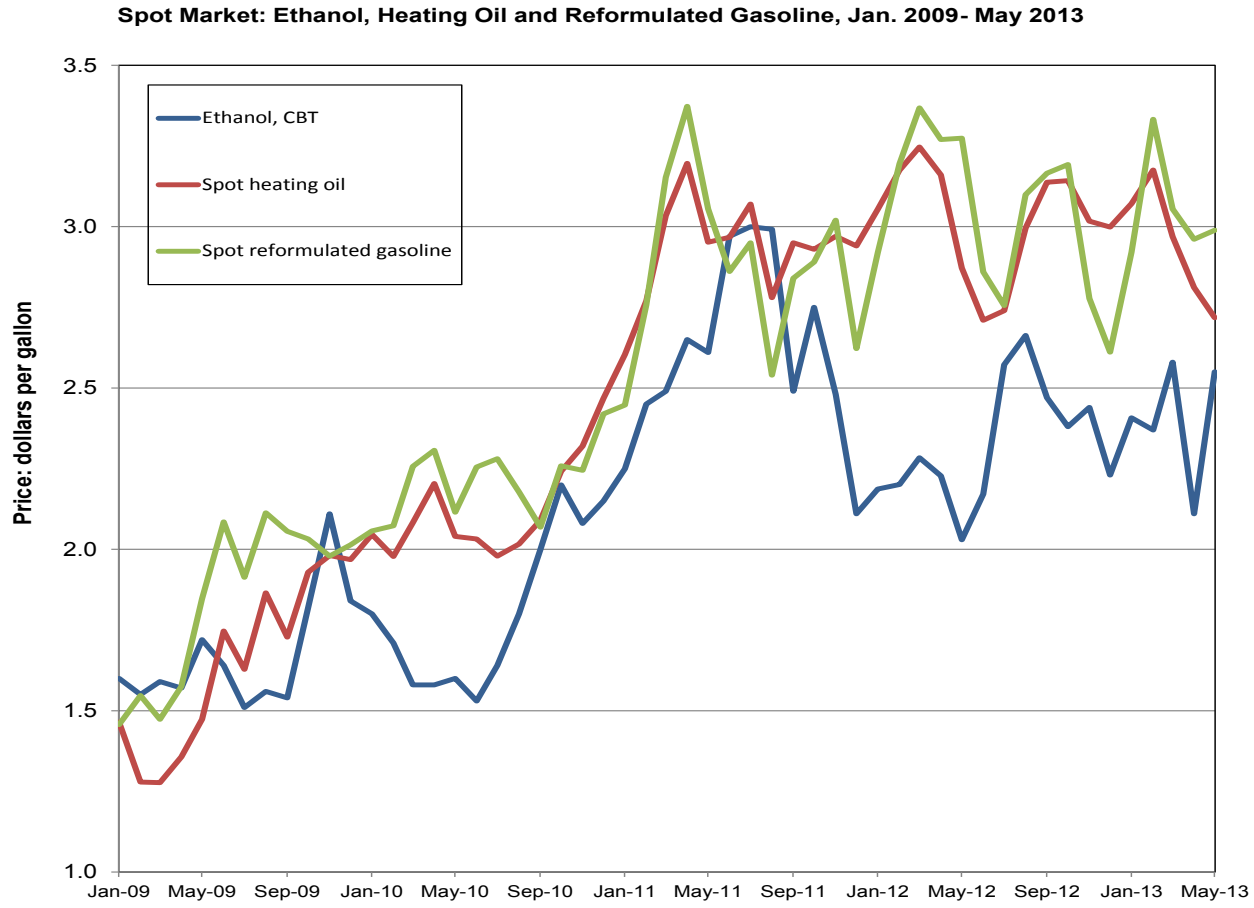
Electricity, Petroleum & Natural Gas Prices

Energy Price Summary	Current	Month Ago	Year Ago
Monthly Range at Mid-C (Peak: $ per MWh)	24-42	23-42	-0.5-27
Average Mid C price (Peak hours $ MWh)	33.5	30.4	10.5
Electricity WA Retail: Feb. (cents/kWh)	7.08	7.20	7.09
Natural gas spot price (next day: $ per million BTU)	3.90	4.13	2.28
Natural gas futures (NYMEX next month: $ per million BTU)	4.18	4.12	2.44
E85 (national average: $ per gallon gasoline)	4.14	4.06	4.18
Ethanol (CBT next month contract: $ per gallon)	2.55	2.11	2.03
Corn ($ per bushel)	6.66	6.20	5.63
Petroleum, West Texas Intermediate: ($ per barrel)	94.9	89.1	90.8
Seattle gasoline price ($ per gallon)	4.02	3.68	4.33
Gasoline futures (NYMEX next month: $ per gallon)	2.79	2.87	2.85
State diesel price ($ per gallon)	4.09	4.03	4.37
Heating oil futures (NYMEX next month: $ per gallon)	2.86	2.79	2.74
U.S. residential propane price report (Oct.-Mar.)	NA	NA	NA
Clean Cities: Alternative Fuel Price Report, Apr. 2012	**US Avg current**	**West Coast last qtr avg**	**West Coast current qtr**
Ethanol E85 ($ per gas gallon equiv.)	4.65	4.71	4.98
Biodiesel B20 ($ per diesel gallon equiv.)	4.19	4.27	4.44
Biodiesel B99-100 ($ per diesel gallon equiv.)	4.72	5.08	4.86
Compressed Natural Gas ($ per gas gallon equiv.)	2.10	2.39	2.46
Propane ($ per gas gallon equiv.)	3.77	4.04	4.18




Spot Crude Oil (WTI), Natural Gas (Kingsgate hub): Jan. 2009- May 2013
Oil: dollars per barrel
Nat. gas: dollars per MMBtu
120
110
100
90
80
70
60
50
40
30
20
6.5
6.0
5.5
5.0
4.5
4.0
3.5
3.0
2.5
2.0
1.5
Jan-09 May-09 Sep-09 Jan-10 May-10 Sep-10 Jan-11 May-11 Sep-11 Jan-12 May-12 Sep-12 Jan-13 May-13
Oil WTI (Bloomberg)
Northwest natural gas (ICE)


Spot Market: Ethanol, Heating Oil and Reformulated Gasoline, Jan. 2009- May 2013
Price: dollars per gallon
3.5
3.0
2.5
2.0
1.5
1.0
Ethanol, CBT
Spot heating oil
Spot reformulated gasoline
Jan-09 May-09 Sep-09 Jan-10 May-10 Sep-10 Jan-11 May-11 Sep-11 Jan-12 May-12 Sep-12 Jan-13 May-13

Energy Headlines—continued

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Washington State Home Builders Lead the Nation in Energy Code Compliance

High Percentage of New Homes in Washington State Exceed Current Energy Code

A report verifies that Washington Builders consistently construct the most energy efficient homes in the U.S.

In 2009, Washington State adopted one of the most rigorous residential building energy codes in the nation. This included new performance testing processes that required the building industry to learn new practices. A field evaluation by the Cadmus Group has verified that Washington home builders have met this challenge. The evaluation documented that new Washington homes were 97 percent compliant with the energy code requirements. This is the best energy code compliance rate in the nation – out-performing most states by a wide margin.

The consultant report was commissioned by the Northwest Energy Efficiency Alliance (NEEA). Evaluations of this type have been developed by many states in response to requirements included in state Recovery Act funding. As a condition of receiving funding from the Department of Energy, all Governor's signed letters of assurance which included commitments to reach a 90% energy code compliance rate by 2017. This report verifies that Washington State has met the state commitment for residential buildings. According to Cadmus' research, Washington has one of the most stringent codes in the country, yet Washington builders are building homes that consume 4 percent less energy on average than the level set by the code.

The effort to measure compliance has roots in the 2009 American Recovery and Reinvestment Act (ARRA), which provided federal stimulus funding to states. A condition of receiving the ARRA funds was that states adopt the 2009 version of the national model energy code or a state-developed equivalent and develop a plan to achieve at least 90 percent compliance with that code by 2017. Washington's residential energy code exceeded the national 2009 model code, but the Department of Commerce had no data to show how it was doing on compliance until this study.

Washington Residential Energy Code Compliance
Prepared by: Cadmus Group, Inc., 720 SW Washington St, Suite 400 Portland, OR 97205, for the Northwest Energy Efficiency Alliance. Contact: David Cohan 503-688-5437

http://neea.org/docs/default-source/reports/washington-residential-energy-code-compliance.pdf?sfvrsn=11

River & Snow Pack Info

- Observed Apr. stream flow at The Dalles: 96% of average.
- Observed Apr. precipitation above The Dalles: 87% of average.
- Forecast runoff at The Dalles: Apr. 91.1 MAF, 90% average flow
- Estimate of 2012-13 snow pack: Apr. 93% of normal.
- Federal hydropower generation in Apr: 10,203 aMW, 2009-2013 average: 9,614 aMW.
- Reservoir content (Libby, Hungry Horse, Grand Coulee, Dworshak): Apr. 61%, 5-year average: 50%.

Power Exchanged

Average flow of power during the last 30 days

- California (exported to) 5581 MW
- Canada (export from) 200 MW
- Net power exported: 5781 MW

Although every URL is checked for accuracy prior to publication, URLs are subject to change for various reasons.

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Lighting and LEDs

LED lighting is very different from other lighting sources such as incandescent bulbs and CFLs. Residential LEDs -- especially ENERGY STAR rated products -- use at least 75% less energy, and last 25 times longer, than incandescent lighting. Key differences include the following:

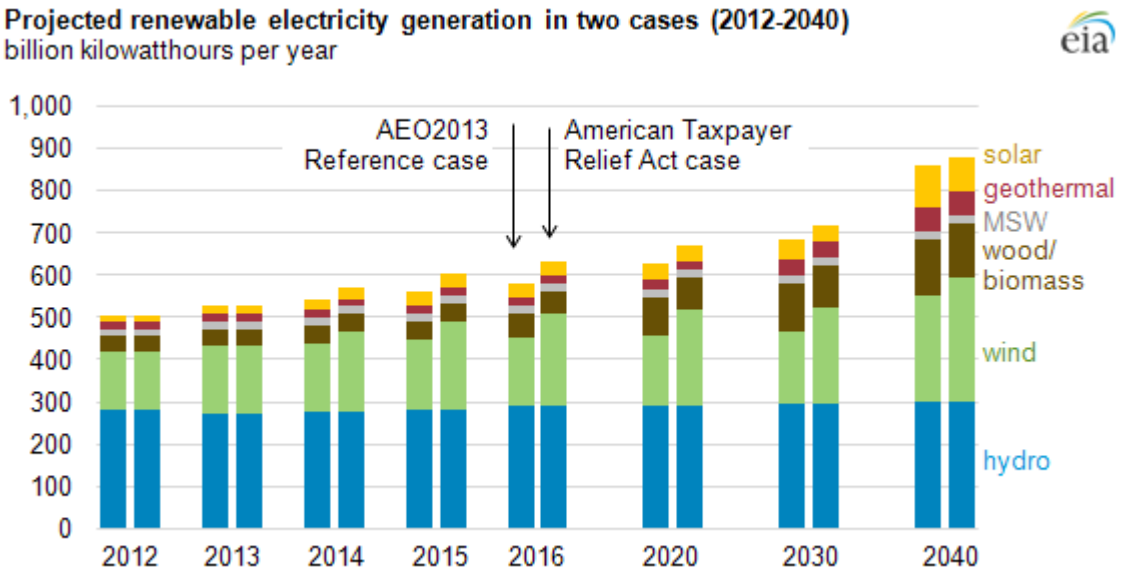
- **Light Source:** LEDs are the size of a fleck of pepper, and a mix of red, green, and blue LEDs is typically used to make white light.
- **Direction:** LEDs emit light in a specific direction, reducing the need for reflectors and diffusers that can trap light. This feature makes LEDs more efficient for many uses such as recessed down lights and task lighting.
- **Heat:** LEDs emit very little heat. In comparison, incandescent bulbs release 90% of their energy as heat and CFLs release about 80% of their energy as heat.

Comparisons between Traditional Incandescent and Energy-Efficient Light Bulbs				
	60W Traditional Incandescent	43W Energy-Saving Incandescent	15W CFL	12W LED
Energy $ Saved (%)	-	~25%	~75%	~75-80%
Annual Energy Cost*	$4.80	$3.50	$1.20	$1.00
Bulb Life	1000 hours	1000 to 3000 hours	10,000 hours	25,000 hours

*Based on 2 hrs./day of usage, an electricity rate of 11 cents per kilowatt-hour, shown in U.S. dollars.

Data and information from energy.gov

Extended tax credits could raise projected renewable electricity capacity and generation



Source: U.S. Energy Information Administration, Annual Energy Outlook 2013.
Note: MSW is municipal solid waste.